

MATH231BR HOMEWORK 2 (DUE THURSDAY, 2/12/26)

Exercise 1.

- (1) Let $f: S_1 \rightarrow S_2$ be a morphism of sheaves over X . Give a reasonable definition of an *image* subsheaf $\text{im}(f) \subseteq S_2$.
- (2) Give a reasonable definition of a *cokernel* sheaf $\text{coker}(f)$ over f .
- (3) Prove an analogue of the first isomorphism theorem for sheaves of abelian groups over spaces.
- (4) How does your first isomorphism theorem look on stalks?

more tbd